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The Safe and Trust factors of Mobile Transportation System for user behavior in Indonesia

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***Abstract*—Mobile transportation recently new phenomenon including in Indonesia country the positive value of mobile transportation system makes the user easy to get the support of delivery things and transportation. However, until now there is the negative impact of usage of mobile transportation system such as deception of mobile transportation account, robbery of the driver or passenger accompanied by murder. Therefore, this research by using the quantitative method with correlation bivariate will find the answer the correlation between safe and trust factors of mobile transportation. Do the passenger trust to the driver of mobile transportation? Do the passenger trust in mobile transportation system? Does the company mobile transportation brand image influence the passenger? Does the passenger feel safe using the mobile transportation system? The research found 37 significant correlation factors from 312 respondents.**

Keywords—Mobile Transportation system, Economic Sharing, Trust, Safe, Quantitative

I. INTRODUCTION

The value of mobile transport system (MT) such as Gojek, Grab in Indonesia makes the customer easy to perform the activity of packet delivery service and transport service[1]. The majority (56%) of the age of passenger who uses MT around 20 years in Indonesia[2], according to a preliminary research conducted in Indonesia 51% of the passenger of MT is the university student[2], the university student as one of the habitual passenger of MT, it seems possible that the university students support their daily activity by using the smartphone for learning and social activities[3][4] and also for playing game[5]

However, in addition to the positive value of Mobile Transportation System (MTS) there are negative values of that, such as the deception of MTS account[6] and the theft of the driver or passenger accompanied by murder occurred in this year[7], driver of MT driver assaulted the teenager passenger[8]. Sexual harassment occurs not only in Indonesia for MT, but also in another country [9]

Therefore, the research that uses the quantitative method and the use of the SPSS tool to process the data with bivariate correlation function, to answer several research questions such as Does the passenger trust the MT driver? Does the passenger trust in MTS? Does the brand image of MT company influence the passenger? Does the passenger feel safe using MTS?

The 12 questioners using Likert-scale and 312 respondents of different ages meet using snow ball random sampling method using the Google form.

II. LITERATURE REVIEW

A. Mobile Transport (MT)

The mobile transport is an application installed on the mobile phone, usually a smartphone and used for the passenger to place orders for rental a service such as transport, delivery order[1]. The example of the MTS company in Indonesia such as Grab, Gojek[10].

B. Mobile Transportation System (MTS)

The mobile transportation system that currently exists in Indonesia such as Grab, Go Jek. The mobile transportation system is a sharing of economic transport that provides service for the transport of passengers, packages of the provision of service etc. The positive response of people with the existence of MTS such as lower cost, better quality of service[10]

C. Safe and Trust Factors

The regulation of mobile transport recently under discussion by the government[10], despite the fact that the company has regulations on security/safety and privacy, however, the misused of information by the driver or the passenger exists and endanger their use. Therefore, the safety and trust factor is an important factor for the MT service.

D. Financial Technology (FinTech)

Financial Technology or FinTech is one of disruptive technology and the use of FinTech as a payment system has an impact on mobile transport, and the combination of 2

disruptive technologies makes the passenger more efficient and secure/safe when making the transaction[11].

III. DATA

Collection of the respondent using the random snowball sampling method and the Google Form to disseminate the 12 questionnaires with the Likert scale. There are 312 respondents in this research and the detail of the respondent can be seen below table I.

TABLE I. DATA CHARACTERISTIC

Description	n	%
Gender		
- Female	138	44.2%
- Male	174	55.8%
Age		
- 15 – 17 years	7	2.2%
- 18 – 20 years	178	57.1%
- 21 – 23 years	112	35.9%
- 24 – 26 years	15	4.8%
Screen Wide		
- <4"	5	1.6%
- 4" – 5"	210	67.3%
- 6" – 7"	70	22.4%
- 8" – 10"	24	7.7%
- >10"	3	1.0%

n = 31

The validation and reliability test of the data can be seen in following table II

TABLE II. DATA VALIDITY & RELIABILITY

Description	Corrected Item-Total Correlation	r table 0.113	Cronbach's Alpha if item deleted	Status
Gender? (R1)	-,032	Invalid	,788	Reliable
Age? (R2)	-,014	Invalid	,790	Reliable
Do you use Mobile Transportation? (R3)	,437	Valid	,758	Reliable
Is it convenient to use MTS? (R4)	,509	Valid	,751	Reliable
How wide your Smartphone screen? (R5)	,004	Invalid	,791	Reliable
How often you pay the fare using FinTech then cash? (R6)	,318	Valid	,799	Reliable
Do you feel safe using Mobile Transportation? (R7)	,700	Valid	,733	Reliable
Do you feel safe to make an order through Mobile Transportation System? (R8)	,651	Valid	,737	Reliable
Do you trust Mobile Transportation System? (R9)	,684	Valid	,732	Reliable
Do you trust the driver of mobile transportation? (R10)	,575	Valid	,743	Reliable
Do you trust to secure connectivity of mobile transportation system? (R11)	,579	Valid	,741	Reliable
Do you trust the company brand image of mobile transportation? (R12)	,600	Valid	,741	Reliable

IV. RESULT AND DISCUSSION

Correlation bivariate process by using SPSS tool to show the relationship between 2 variables. The research found 37 significant correlation and can be seen in Table III below.

TABLE III. CORRELATION BIVARIATE

	R1	R2	R3	R4	R5	R6
R1						
R2	NA					
R3	-0.163** 0.004	NA				
R4	NA	NA	0.432** 0.000			
R5	NA	NA	NA	NA		
R6	NA	NA	0.404** 0.000	0.285** 0.000	NA	
R7	NA	NA	0.325** 0.000	0.480** 0.000	NA	0.257** 0.000
R8	NA	NA	0.308** 0.000	0.485** 0.000	NA	0.204** 0.000
R9	NA	NA	0.288** 0.000	0.401** 0.000	NA	0.202** 0.000
R10	NA	NA	0.232** 0.000	0.295** 0.000	NA	0.135* 0.017
R11	NA	NA	0.236** 0.000	0.219** 0.000	NA	0.185** 0.001
R12	NA	NA	0.228** 0.000	0.271** 0.000	NA	0.126* 0.027
	R7	R8	R9	R10	R11	R12
R7						
R8	0.769** 0.000					
R9	0.587** 0.000	0.646** 0.000				
R10	0.501 0.000	0.486** 0.000	0.603** 0.000			
R11	0.499** 0.000	0.438** 0.000	0.597** 0.000	0.584** 0.000		
R12	0.510** 0.000	0.489** 0.000	0.672** 0.000	0.582 0.000	0.631** 0.000	

* correlation significant at level 95%, ** correlation significant at level 99%

Above 37 significant correlation found from the process of SPSS correlation bivariate can be interpreted as follows

A. *Gender(R1) vs Use of MT(R3)*

The significant correlation between gender and use of MT with Pearson correlation value (PCV) -0.163 alpha 1% 0.004 (<0.05). Its mean female more frequent use the MT compare than male.

B. *Use of MT(R3)*

- Correlate with convenience use of MTS(R4), the PCV is 0.432 alpha 1% 0.000 (<0.05). Its mean the frequently use of MT cause of the convenience of MTS service.
- Correlate with use of FinTech(R6), the PCV is 0.404 alpha 1% 0.000 (<0.05). Its mean the frequent passenger uses of MT tend to use FinTech then cash to pay the fare.
- Correlate with safe using MT (R7), the PCV is 0.325 alpha 1% 0.000 (<0.05). It means the passenger that use MT service tend to feel safe.
- Correlate with feel secure make an order through MTS (R8), the PCV is 0.308 alpha 1% 0.000 (<0.05).

Its mean the passenger that use MT feel secure to make an order in MTS

- Correlate with trust MTS (R9), the PCV 0.288 alpha 1% 0.000 (<0.05). Its mean the passenger of MT tends to trust the MTS
- Correlate with trust driver MT (R10), the PCV 0.232 alpha 1% 0.000 (<0.05). Its mean the passenger of MT tends to trust the driver of MT.
- Correlate with secure connectivity of MTS (R11), PCV 0.236 alpha 1% 0.000 (<0.05). Its mean the passenger of MT trust to secure of connectivity of MTS.
- Correlate with trust to company brand image of MT(R12), the PCV 0.228 alpha 1% 0.000 (<0.05). Its mean the passenger of MT trust to the company brand image

C. Convenience use of Mobile Transportation Systems(R4)

- Correlate with pay the fare use FinTech then cash (R6), PCV 0.285 alpha 1% 0.000 (<0.05). Its mean the more frequent passenger uses MT, mostly pay the fare using FinTech then cash.
- Correlate with safe using MT (R7), the PCV is 0.480 alpha 1% 0.000 (<0.05). It means the passenger that convenience use MTS tend to feel safe use the MT.
- Correlate with feel secure make an order through MTS (R8), the PCV is 0.485 alpha 1% 0.000 (<0.05). Its mean the passenger that convenience use MTS tend to feel secure to make an order through MTS
- Correlate with trust MTS (R9), the PCV 0.401 alpha 1% 0.000 (<0.05). Its mean the passenger that convenience use MTS tend to trust the MTS
- Correlate with trust driver MT (R10), the PCV 0.295 alpha 1% 0.000 (<0.05). Its mean the passenger that convenience use of MTS tends to trust the driver of MT.
- Correlate with secure connectivity of MTS (R11), PCV 0.219 alpha 1% 0.000 (<0.05). Its mean the passenger that feel convenience use of MTS trust to secure of connectivity of MTS.
- Correlate with trust to company brand image of MT(R12), the PCV 0.271 alpha 1% 0.000 (<0.05). Its mean the passenger that convenience use of MTS trust to the company brand image

D. Pay the fare using FinTech then cash (R6)

- Correlate with safe using MT (R7), the PCV is 0.257 alpha 1% 0.000 (<0.05). It means the passenger that pay the fare use FinTech tend to feel safe use the MT.
- Correlate with feel secure make an order through MTS (R8), the PCV is 0.204 alpha 1% 0.000 (<0.05). Its mean the passenger that pay the fare use FinTech then cash tend to feel secure to make an order through MTS.
- Correlate with trust MTS (R9), the PCV 0.202 alpha 1% 0.000 (<0.05). Its mean the passenger that pay the fare use FinTech then cash, trust the MTS
- Correlate with trust driver MT (R10), the PCV 0.135 alpha 5% 0.017 (<0.05). Its mean the passenger that pay the fare use FinTech then cash tends to trust the driver of MT.
- Correlate with secure connectivity of MTS (R11), PCV 0.185 alpha 1% 0.001 (<0.05). Its mean the passenger that pay the fare using FinTech then the case, trust to secure of connectivity of MTS.
- Correlate with trust to company brand image of MT(R12), the PCV 0.126 alpha 5% 0.027 (<0.05). Its mean the passenger that pay the fare using the FinTech then cash, trust to the company brand image.

E. Feel safe using Mobile Transportation Systems(R7)

- Correlate with feel secure make an order through MTS (R8), the PCV is 0.769 alpha 1% 0.000 (<0.05). Its mean the passenger feels safe using MTS tend to feel secure to make an order through MTS
- Correlate with trust MTS (R9), the PCV 0.587 alpha 1% 0.000 (<0.05). Its mean the passenger that feel safe using MTS tend to trust the MTS
- Correlate with trust driver MT (R10), the PCV 0.501 alpha 1% 0.000 (<0.05). Its mean the passenger that feel safe using MTS tend to trust the driver of MT.
- Correlate with secure connectivity of MTS (R11), PCV 0.499 alpha 1% 0.000 (<0.05). Its mean the passenger that feel safe using MTS trust to secure of connectivity of MTS.
- Correlate with trust to company brand image of MT(R12), the PCV 0.510 alpha 1% 0.000 (<0.05). Its mean the passenger that feel safe using MTS trust to the company brand image

F. Feel secure make an order through Mobile Transportation System(MTS)(R8)

- Correlate with trust MTS (R9), the PCV 0.646 alpha 1% 0.000 (<0.05). Its mean the passenger that feel secure make an order through MTS trust the MTS
- Correlate with trust driver MT (R10), the PCV 0.486 alpha 1% 0.000 (<0.05). Its mean the passenger that feel secure make an order through MTS tend to trust the driver of MT.
- Correlate with secure connectivity of MTS (R11), PCV 0.438 alpha 1% 0.000 (<0.05). Its mean the passenger that feel secure make an order through MTS trust to secure of connectivity of MTS.
- Correlate with trust to company brand image of MT(R12), the PCV 0.489 alpha 1% 0.000 (<0.05). Its mean the passenger that secure make an order through MTS trust to the company brand image

G. Trust to Mobile Transportation System(MTS)(R9)

- Correlate with trust driver MT (R10), the PCV 0.603 alpha 1% 0.000 (<0.05). Its mean the passenger who trusts to MTS tend to trust the driver of MT.
- Correlate with secure connectivity of MTS (R11), PCV 0.597 alpha 1% 0.000 (<0.05). Its mean the

passenger who trusts to MTS feel secure of connectivity of MTS.

- Correlate with trust to company brand image of MT(R12), the PCV 0.672 alpha 1% 0.000 (<0.05). Its mean the passenger who trusts to MTS tend to trust the company brand image

H. Trust to the driver of Mobile Transportation(MT) (10)

- Correlate with secure connectivity of MTS (R11), PCV 0.584 alpha 1% 0.000 (<0.05). Its mean the passenger who trusts to the driver of MT feel secure of connectivity of MTS.
- Correlate with trust to company brand image of MT(R12), the PCV 0.582 alpha 1% 0.000 (<0.05). Its mean the passenger who trusts to the driver of MT tend to trust the company brand image

I. Secure connectivity of Mobile Transportaion System (MTS) (10)

- Correlate with trust to company brand image of MT(R12), the PCV 0.631 alpha 1% 0.000 (<0.05). Its mean the passenger who feel secure of connectivity of MTS trust the company brand image

J. Discussion

The result of the research shows that similar result from early research reported that the passenger that mostly use mobile transportation service is female rather than a male that uses mobile transportation service and system[2]

The research found regarding the trust factor with brand image and for the more frequent passenger (loyal passenger) tend to trust to company brand image[12] and convenience use the MT service.

The research found that the most frequent passenger (loyal) tend to use the FinTech as a payment fare service and agree with the early paper reported[11]

Agree with the early research reported there is positive passenger loyalty for MTS (sharing economy), the commitment to provide safety and privacy of the MTS from the industry as a key success of the services[13]. The similar result reported that the relation between passenger and driver happen and an as an important factor of the service[13].

V. Conclusion

The result can be concluded that the passenger of mobile transportation service mostly trusts to the mobile transportation system in term of security, the passenger trust to the driver of mobile transportation, the passenger of the mobile transportation trust to the company branch image. The passenger of mobile transportation feels safe using the mobile transportation service event mostly the passenger of the mobile transportation system is female[2]. The more frequent passenger (loyal passenger) that use mobile transportation service has more feel of safety and trust to the driver, mobile transportation system and company branch image of mobile transportation. The most frequent passenger (loyal customer) also tend to pay the fare using Fintech as a payment service.

The future search required to answer several future research questions such as why the female user tend to trust mobile transportation? Are the cost and efficiency become most important than safety aspect?

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